

## SUPPORTING INFORMATION

### **Atomic Layer Deposition of SnTe Thin Film Using $\text{Sn}(\text{N}(\text{CH}_3)_2)_4$ and $\text{Te}(\text{Si}(\text{CH}_3)_3)_2$ with Ammonia Co-injection**

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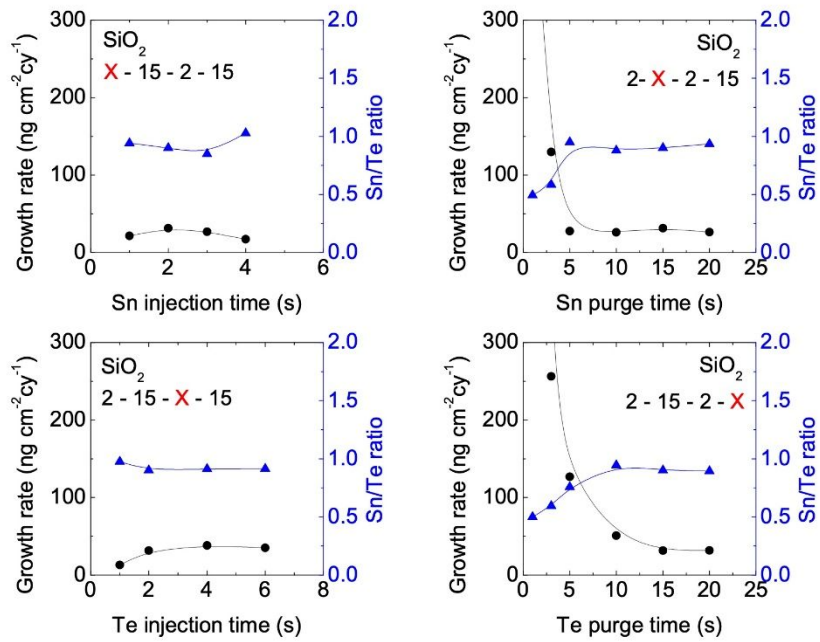


Figure S1. Self-limiting growth of SnTe at 90°C without  $\text{NH}_3$  on  $\text{SiO}_2$  substrate. Growth rates and the atomic ratio depending on injection times of (a) Sn precursor, (b) Ar purge, (c) Te precursor, and (d) second Ar purge. The total number of cycles were fixed at 300 cycles due to inhomogeneous nucleation.

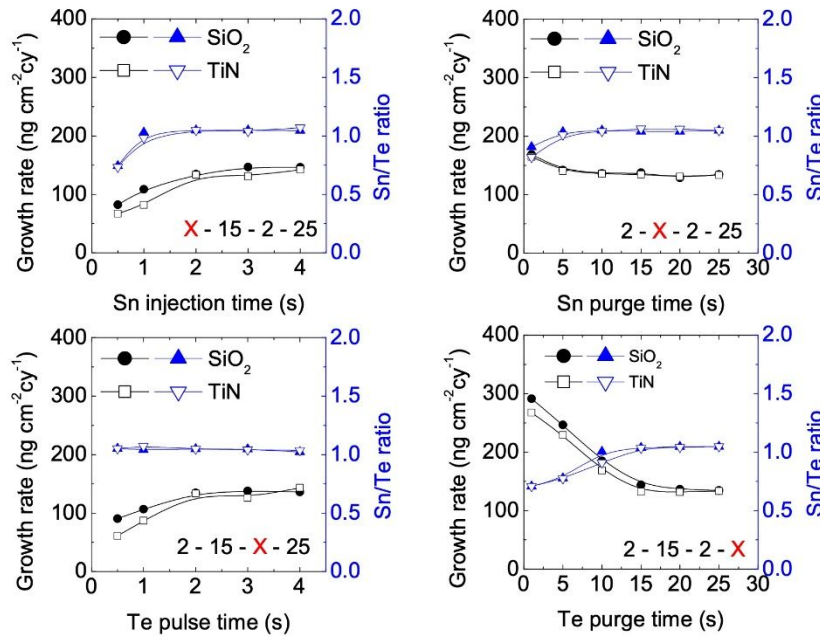


Figure S2. Self-limiting growth of SnTe at 130°C with  $\text{NH}_3$  co-injection on  $\text{SiO}_2$  and  $\text{TiN}$  substrates. Growth rates and the atomic ratio depending on injection times of (a) Sn precursor, (b) Ar purge, (c) Te precursor, and (d) second Ar purge. The total number of cycles were fixed at 50 cycles.

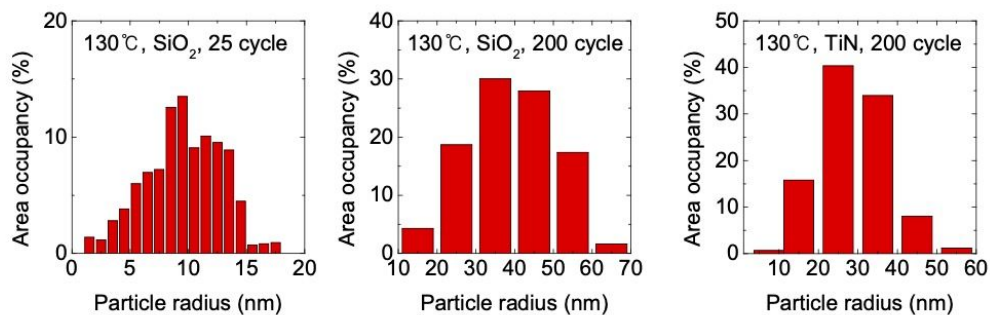


Fig S3. Particle size distribution of SnTe deposited on SiO<sub>2</sub> or TiN substrate. SnTe was deposited at 130°C with NH<sub>3</sub> co-injection.

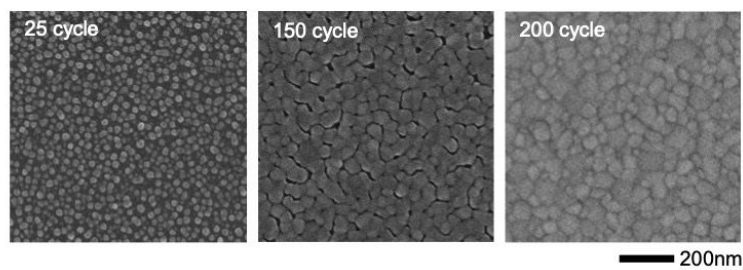


Fig S4. Surface morphology of SnTe deposited on TiN substrate. SnTe was deposited at 130°C with NH<sub>3</sub> co-injection.

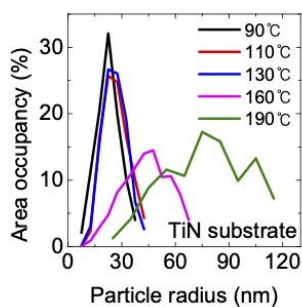


Fig S5. Particle size analysis of SnTe films deposited on TiN at different temperatures. The films were deposited by 100 cycles.